

CLAIM AMENDMENTS

1-11. (Cancelled)

12. (Currently Amended) An apparatus for receiving a selected curable material and for retaining the selected curable material during a forming stage and a curing stage, the selected curable material being formed into a desired configuration during the forming stage and being heated during the curing stage to harden the selected material in the desired configuration, the apparatus comprising:

a core mounted for rotation about an axis of rotation, the core having an associated core rotation means for rotating the core about an axis of rotation, an outer permeable surface for receiving and retaining the selected curable material, and

fluid communication means for receiving air flow from the outer permeable surface; a curing means for heating the selected curable material to at least a curing temperature to harden the selected curable material in the selected configuration, The apparatus as defined in claim 11 wherein the curing means includes

a curing station for supplying a curing air supply around the core, and air heating means for heating the curing air supply to at least the curing temperature; and, the vacuum means includes

a forming air outlet for receiving the forming core air flow from the fluid communication means,

a recirculation outlet for receiving the curing core air flow from the fluid communication means and for recirculating the curing core air flow back to the curing station, and

a valve means for controlling fluid communication between the forming air outlet and the fluid communication means and for controlling fluid communication between the recirculation outlet and the fluid communication means; and,

a vacuum means in fluid communication with the fluid communications of the core for

drawing a forming core air flow through the fluid communication means, the outer permeable surface of the core and the selected curable material retained on the core during forming of the selected curable material retained on the core, the forming core air flow having a temperature below the curing temperature, and

drawing a curing core air flow through the outer permeable surface and the fluid communication means of the core and the selected curable material retained on the core during curing of the selected curable material retained on the core.

13. (Original) The apparatus as defined in claim 12 wherein the vacuum means includes

an exhaust fan for discharging the forming core air flow via the forming air outlet; and,

a recirculation fan for recirculating the curing core air flow to the curing station via the recirculation outlet.

14. (Original) The apparatus as defined in claim 12 wherein the valve means has an associated forming setting, the valve means in the associated forming setting being operable to connect the forming air outlet to the fluid communication means, and to disconnect the recirculation air outlet from the fluid communication means;

an associated curing setting, the valve means in the associated curing setting being operable to connect the recirculation air outlet to the fluid communication means, and to disconnect the forming air outlet from the fluid communication means; and,

an associated distributed setting between the associated forming setting and the associated curing setting for providing continuous air flow through the core when the apparatus is changing from the forming stage to the curing stage, the valve means being operable to decrease fluid communication between the forming air outlet and the fluid communication means and to conjointly and proportionately increase fluid communication between the recirculation air outlet and the fluid communication means when the valve means is moving through the associated distributed setting from the associated forming setting to the associated curing setting.

15. (Original) The apparatus as defined in claim 14 further comprising a forming station for forming the selected curable material retained on the core into the selected configuration; and,

a core support for supporting the core, the core support being pivotable about a pivot axis to pivot the core between the forming station and the curing station, the core support having a vacuum conduit for providing fluid communication from the fluid communication means of the core to the forming air outlet and the recirculation outlet, the valve means being operable to control fluid communication between the forming air outlet and the vacuum

conduit and to control fluid communication between the recirculation outlet and the vacuum conduit.

16. (Original) The apparatus as defined in claim 15 wherein the curing station comprises a curing oven for receiving the core and for supplying the curing core air flow to the core, the core support being operable to pivot the core into and out of the curing oven.

17. (Original) The apparatus as defined in claim 16 wherein the curing oven has a rear opening, a main opening and a main door for closing and opening the main opening, the main opening extending lengthwise along the curing oven and the core support being operable to pivot the core into and out of the curing oven core when the main door is open;

the core support is positioned beside the rear opening of the curing oven and has a sealing plate dimensioned to close and seal the rear opening of the curing oven when the core is pivoted into the curing oven when the main door of the oven is open, the main door being closeable when the core is in the oven to seal the core and the selected material retained thereon in the oven for curing.

18. (Original) The apparatus as defined in claim 17 wherein the curing oven comprises a curing air inlet for discharging the curing air supply into the curing oven, the curing air inlet being in fluid communication with the recirculation outlet; and

the air heating means is between the recirculation outlet and the curing air inlet to heat the curing air supply to at least the curing temperature.

19. (Original) The apparatus as defined in claim 18 wherein the curing oven includes a rear door for closing the rear opening, and the curing air inlet includes an associated bypass valve for disconnecting the curing air inlet from the curing oven and rerouting the curing air supply back to the air heating means.

20. (Original) The apparatus as defined in claim 18 wherein the curing oven includes an oven air outlet for drawing an oven air outflow from the curing oven and for inducing a rotational air flow of the curing air supply around the core in the curing oven, the oven air outlet being in fluid communication with the air heating means

and the curing air inlet to recirculate the oven air outflow back to the curing air inlet after the oven air outflow has been reheated; and,

the oven air outlet and the curing air inlet are located on a common side of the curing oven and are disposed on opposite sides of the core.

21. (Original) The apparatus as defined in claim 20 wherein the curing air inlet extends lengthwise along the common side and releases the curing air supply along substantially an entire length of the selected curable material retained on the core.

ABSTRACT AMENDMENT

Replace the text of the Abstract with:

A roll forming apparatus used for rolling a selected material around a cylindrical core. ~~The apparatus that~~ comprises a core support, a roll support means, and a material supply means. ~~The core support is for supporting the cylindrical core.~~ The core support has an associated core rotation means for rotating the core about ~~a core rotation~~ an axis at a controllable ~~rotation~~ rate. The roll support means supports a plurality of forming rolls positioned to surround the core about the core rotation axis. The roll support means has a roll control means operable to both radially position the plurality of forming rolls relative to the core rotation axis ~~and to constrain the plurality of forming rolls to be~~ so that they are equally spaced from the ~~core~~ rotation axis, ~~in order to provide integrated adjustment of the plurality of forming rolls to control a radial dimension of a substantially symmetrical forming space defined by the plurality of forming rolls.~~ The material supply means is for supplying the selected material to the core at a material supply rate, and has an associated material supply control means for controlling the material supply rate.

REMARKS

Applicant responds to the numbered sections of the Office Action of June 13, 2003, as follows:

The Amendments to the Specification, Claims, and Abstract, and Remarks

1. The continuity data at the beginning of the specification has been updated as requested by an amendment to the specification.

2. Applicant acknowledges and appreciates the Examiner's attention in noting the absence of the Finnish reference. Applicant has attempted to obtain a copy of this reference from electronic databases, but has been unsuccessful. However, applicant has learned that the inventor identified in connection with the Finnish reference is a chemist, specializing in inorganic chemistry and particularly silicate materials, and is known as an inventor of chemical compounds and chemical processes. On this basis, applicant questions the relevance of the Finnish reference to the apparatus claims of this application. Because neither applicant nor his attorneys have a copy of the Finnish reference, no copy can be provided in a Supplemental Disclosure Statement.

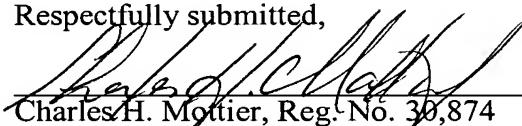
3. The objection to the Abstract of the Disclosure has been addressed by the foregoing amendment to the abstract.

4-7. Applicant acknowledges with appreciation the Examiner's indication that claims 12-21 would be allowable if rewritten in independent form, including all of the limitations of independent claim 11 and any intervening claims. Applicant has therefore canceled claim 11 and amended claim 12 so that it includes the substance of claim 11 and is now independent. No further amendments are believed necessary to the remaining claims to secure their allowance.

Conclusion

The application is considered in good and proper form for allowance, and the Examiner is respectfully requested to pass this application to issue. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of this application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,


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